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ABSTRACT

INDIVIDUALLY PRESCRIBED INSTRUCTION (IPI), A PROJECT BASED ON A CAREFULLY SEQUENCED AND DETAILED LISTING OF BEHAVIORALLY STATED OBJECTIVES, LESSON MATERIALS GEARED TO INSTRUCTIONAL OBJECTIVES, PROVISION FOR DIAGNOSIS OF PUPIL SKILLS AND ABILITIES, WRITTEN PRESCRIPTIONS TO GUIDE THE PUPIL'S WORK, AND PUPIL ORIENTED INSTRUCTION, IS OUTLINED FIRST IN THIS REPORT. THE AGENDA OF AN IPI INSTRUCTIONAL INSTITUTE IS PRESENTED NEXT. THE MAJOR PORTION OF THE REPORT IS COMPOSED OF DETAILED IPI IMPLEMENTATION PLANS FOR FOUR CITIES IN THE MID-ATLANTIC REGION. (SP)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PRELIMINARY REPORT

RESEARCH FOR BETTER SCHOOLS, INC.

for the

MIDDLE ATLANTIC REGION

Summer, 1966

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PRELIMINARY REPORT

IPI INSTITUTE

SUMMER 1966

TABLE OF CONTENTS

		PAGES
A.	BACKGROUND - Individually Prescribed Instruction	1 - 6
B.	IPI INSTITUTE	6
	Agenda	6 - 8
C.	ENROLLMENT FOR IPI INSTITUTE	9
	Six-Week Participants	9
	Two-Week Participants	9
	One-Week Participants	10
D.	LOCAL DISTRICT PLAN FOR IMPLEMENTATION OF INDIVIDUALLY PRESCRIBED INSTRUCTION	
	Dover, Delaware	12 - 27
	Quakertown, Pennsylvania	28 - 39
	Harrisburg, Pennsylvania	40 - 55
	Trenton, New Jersey	56 - 68

APPENDIX

A. BACKGROUND - INDIVIDUALLY PRESCRIBED INSTRUCTION

Individually Prescribed Instruction represents a definite procedure for planning and carrying out classroom instruction. As an instructional procedure it is characterized by elements which serve to differentiate it from other educational procedures. The essential elements of Individually Prescribed Instruction have been developed by C. M. Lindvall of the University of Pittsburgh and appear in The Manual for the IPI INSTITUTE, compiled by Robert G. Scanlon. The elements are as follows:

I. IPI must be based on a carefully sequenced and detailed listing of behaviorally stated instructional objectives. Such listings must be used in planning most other aspects of the program and should have the following characteristics:

1. Each objective should tell exactly what a pupil should be able to do to exhibit his mastery or knowledge of the given content and skill. This should typically be something that the average student can master in a relatively short time such as one class period. Objectives should involve such action verbs as solve, state, explain, list, describe, etc. rather than such general terms as understand, appreciate, know, and comprehend.

2. Objectives should be grouped in meaningful streams of content. For example, in arithmetic the objectives will typically be grouped into such areas as numeration, place value, addition, subtraction, etc. Such grouping aids in the meaningful development of instructional materials and in the diagnosis of pupil achievement. At the same time, this grouping does not preclude the possibility of having objectives that cut across areas.

3. Within each stream or area the objectives should, to the extent possible, be sequenced in an order such that each one builds on those that precede it and is prerequisite to those that follow. The goal here is to let the objectives constitute a "scale" of abilities.

4. Within the sequence of objectives in each area the objectives should be grouped into meaningful sub-sequences or units. Such units can be designated as representing different levels in progress and provide break-points such that when a student finishes a unit in one area, he may either go on to the next unit in that area or may switch to a unit in another area. (For example, upon completing Level B Addition the pupil may go on to Level C Addition or may move to Level B Subtraction. For a complete explanation of curriculum levels, see Appendix A - Chapter 2.)

II. IPI lesson materials must be geared exactly to the instructional objectives and must be such as to permit pupils to proceed quite independently with a minimum of direct teacher instruction.

1. Each piece of lesson material and each learning exercise must be identified as teaching some specific objective in the sequence and must be marked or coded in terms of that objective. The material should be such that when the pupil has completed his work with it there is a high probability that he will be able to pass a test covering the objectives.

2. Most lesson material should be such that the pupil can work with it with little or no teacher assistance. This can involve the use of such things as workbook pages, programmed materials, recorded lessons and instructions, and materials with which one student works with another. It does not preclude the occasional use of lessons that require explanations by the teacher but does mean the essential elimination of lecture-type presentations. The procedure must be such that teacher time can be reserved for work with individual pupils.

3. Lesson materials must be subject to continuous scrutiny and analysis on the basis of pupil performance. Procedures should be established whereby lessons that are not effective are identified and modified or replaced. A definite part of the IPI procedure is specific provision for revision on the basis of feedback regarding pupil performance.

4. Lesson materials used in IPI must be such that they require the pupil to actually perform and practice the skill that he is to acquire. That is, these materials cannot be of the type that merely require the pupil to "read about" the things he is to master. For example, in a science unit on magnetism in which the pupil is to learn how to distinguish whether a material is magnetic or not, the lesson material must give him practice in carrying out this step rather than merely requiring that he read an explanation of it.

5. IPI lesson materials must be developed as a total "package" covering the entire curriculum sequence and should be available in completed form before the program is inaugurated. IPI is an organized instructional procedure in which all details of instruction are part of an integrated plan. Lesson materials should not be left for development "when and if needed". An insistence on this pre-planning of the total lesson sequence is not intended to inhibit the introduction of modifications or innovations when these seem desirable. Rather, its intent is to provide a basic structure which can be used as is or can be modified in an organized and logical manner.

6. Lesson materials must be prepared in a form which facilitates the preparation of individualized sequences for each pupil. In the present early version of IPI this has been achieved through the extensive use of individual loose lesson pages which can be arranged in whatever order is desired. Although such sheets may be superceded by other types of materials, the goal must be to retain this type of flexibility.

III. A basic aspect of the IPI procedure is rather detailed provision for diagnosis of pupil skills and abilities and continuous monitoring of pupil progress.

1. There must be specific provision for the use of tests and other information to place pupils at the proper point to begin work in each of the curriculum sequences. These placement tests must be criterion-referenced so that they provide rather exact information concerning what objectives a pupil has and has not mastered. With the presently used IPI placement tests information is obtained which provides for the correct placement of the pupil at the proper level in each content area. (C Numeration, B Place Value, B Addition, etc.)

2. There must be provision for pre-testing of the student before he begins each unit of work. This provides exact information concerning his command of any material in the unit and serves as a basis for developing his prescription describing what materials he needs to study. Prescription writing, that is the detailed individualized lesson plan, may be based on a variety of types of information concerning the student, but the basis data are those that describe his achievement.

3. There must be provision for a continuous monitoring of pupil progress as the student works through his sequence of exercises within a unit. Some of this monitoring can be accomplished by observing his work and scoring his worksheets and other exercises. However, Individually Prescribed Instruction requires additional and more objective data based on Curriculum Embedded Tests. These are tests, resembling worksheets in general format, that the pupil takes when he completes his study of each objective. A curriculum embedded test contains items covering the objective in question and a few additional items covering the next objective. These tests are basic instruments for use in determining when a pupil is ready to move on to a new objective or, perhaps, if he is able to skip a new objective. As such, these tests are essential for preparing prescriptions and, hence, basic to the IPI procedure.

4. As would be anticipated, IPI also requires that unit post-tests be given when a pupil has completed work in a unit. This provides an overall survey of his command of the unit and is the basis for deciding whether he needs more work in it or is ready to move on to a new unit.

IV. Perhaps the most unique feature of Individually Prescribed Instruction is its requirement that each pupil's work be guided by written prescriptions prepared to meet his needs and interests.

1. All prescriptions must be developed on the basis of an examination of the individual pupil's record. They must not be developed on any group basis or through the routine assignment of a standard prescription.

2. Prescriptions should cover a relatively small amount of work, such as one objective, and should be developed quite frequently. Confining any prescription to a relatively small segment of work means that the student's lessons will be adjusted frequently to meet his needs.

3. Prescriptions must be quite specific in terms of the exact material that the pupil is to study. A prescription is a detailed, specific, and individualized lesson plan. It is not merely a general description of what the pupil needs to master.

V. As is true with most types of classroom instruction, the work of the teacher is a key aspect of IPI. Some of the essential aspects of teacher performance are the following:

1. Little, if any. time is spent in lecturing to a class or in conducting a large-group discussion. In most cases treating the class as a group is antithetical to the individualization of instruction.

2. Much of a teacher's time is spent in examining the individual pupil's record, in diagnosing his needs, and preparing individual lesson plans (developing prescriptions). The teacher's role in preparing for instruction is not one of deciding what he is going to teach and how he is going to present it but it is rather that of determining what each pupil needs and arranging for the necessary learning experiences.

3. The teacher will spend considerable class time in helping individual pupils. That is, the teacher will spend little time standing in front of the class but, for the most part, will be moving about from pupil to pupil answering individual questions and providing necessary explanations.

4. The teacher must be a responsible evaluator of the effectiveness of lesson materials and learning experiences. If IPI is to function successfully, the teacher must be alert to pupil difficulties with lesson materials and must analyze such problems not in terms of the inadequacies of the pupils but in terms of what can be done to revise lessons and procedures so as to eliminate such difficulties. The teacher must function as an educational "engineer".

5. If IPI is to be used effectively, provision must be made for frequent and regular staff conferences to discuss individual pupils, to evaluate and adapt materials and procedures, and to make future plans. Such conferences are an essential aid to the development of instructional plans that are really sensitive to the needs of individual pupils. They are also basic to the operation of an instructional technology in which instructional procedures are modified on the basis of pupil performance.

VI. The success of any type of educational curriculum will rest ultimately on the quality of the experiences that the pupils have. Individually Prescribed Instruction is pupil oriented instruction and differs from other procedures in terms of the types of activities in which pupils are engaged.

1. For the most part, pupils will be working individually and independently. IPI may involve occasional small group and large group instruction, but for the majority of the time each pupil will be working by himself on lesson material that is different from that with which others are working.

2. Much of each student's studying involves active and overt responding on his part. To a greater degree than in most other types of classrooms pupil study will involve writing answers, solving problems, performing experiments, and other types of overt activity. IPI instruction may involve considerable independent reading by pupils and there will be many occasions when class time will be spent in merely reading. However, whenever possible pupil study demands that pupils actually do things in order to practice the ability that they are expected to acquire.

3. IPI instruction requires that pupils be quite self-dependent and that, within the limits of the general procedure, they make many decisions and plan activities on their own initiative. In more conventional instruction the pupils are as a class, told such things as, "We will now work this page," and "Do not go beyond this page until I tell you to". Under IPI a pupil works from one page to the next at his own pace and determines for himself when he has completed an assign-

ment and when his work is ready to be checked. Pupils work under conditions in which they are responsible for their own rate of learning and eventually come to realize that learning is a process that is dependent on their participation and initiative.

4. Each pupil must be getting regular and frequent feedback concerning the effectiveness of the work he is doing and the progress he is making. The IPI process must provide for getting information to the student concerning his success on every lesson exercise. This may take the form of letting the pupil check his own papers with some type of key or having them checked by teachers or teacher aides. In any event the pupil should be getting rather immediate information concerning his success with lessons or on tests.

B. IPI INSTITUTE

The School of Education of the University of Pittsburgh, in collaboration with the Learning Research and Development Center, the Baldwin-Whitehall School District, and Research for Better Schools, Inc., offered an Institute to afford educators and researchers an opportunity to study Individually Prescribed Instruction under classroom conditions. The important developments, the theoretical and practical applications of the information drawn from experimentation with Individually Prescribed Instruction, and selected research findings all were important parts of the IPI Institute. The following agenda is a listing of the experience provided during the Institute.

	A.M.	P.M.
DATE	TOPIC	TOPIC
June 27		1. General Orientation 2. General Introduction to IPI Institute 3. History of IPI
June 28	1. General Introduction to teaching staff 2. Specific Assignment 3. Introduction to placement tests	1. General overview to IPI
June 29	1. Observe Students 2. Score placement tests	1. Overview of Curriculum development - science - mathematics

DATE	A.M. TOPIC	P.M. TOPIC
June 30	1. Observe students 2. Score placement tests	1. Development of diagnostic instruments
July 1	1. Work with teachers 2. Placing students	
July 5	1. Rotate thru positions of clerk, observer	1. Questions and answers concerning IPI
July 6	1. Rotate thru positions of clerk, observer	1. Overviewing of curriculum development reading
July 7	1. Rotate thru positions of clerk, observer	1. Work through math sequence; placement tests, unit tests, prescription
July 8	1. Rotate thru positions of clerk, observer	1. First formal evaluation of IPI and the Institute
July 11	1. Work with individual pupils as part of teacher role	1. Educational diagnosis
July 12	1. Observe pupils and assist teacher 2. Collect data on pupils' perception of IPI	1. School District - University - Regional Laboratory relationship
July 13	1. Observe pupils and assist teacher 2. Collect data on pupils' perception of IPI	1. Prescription writing: reading
July 14	1. Observe pupils and assist teacher 2. Collect data on pupils' perception of IPI	1. Prescription writing - mathematics
July 15	1. Observe pupils and assist teachers 2. Collect data on pupils' perception of IPI	
July 18	1. Serve as co-teacher	1. Construct flow charts: teacher function, student function, materials
July 19	1. Serve as co-teacher	1. Problems of teaching using IPI
July 20	1. Serve as co-teacher	1. Research related to IPI

DATE	A.M. TOPIC	P.M. TOPIC
July 21	1. Serve as co-teacher	1. Administrative Instruction problems: a. School district, b. Preparation of teachers and aides, c. Banks of materials
July 22	1. Serve as co-teacher	
July 25	1. Serve as IPI teacher	1. Reporting pupils perception of IPI
July 26	1. Serve as IPI teacher	1. Begin specifying own plans
July 27	1. Serve as IPI teacher	1. Relating IPI to a. Teachers in other schools, b. Next school pupils will attend, c. Parents
July 28	1. Serve as IPI teacher	1. Teachers' perception of IPI (Oakleaf staff)
July 29	1. Serve as IPI teacher	
Aug. 1	1. IPI Institute students withdraw from active classroom involvement - work on own plan of implementation	1. Critical examination of IPI plan
Aug. 2	1. IPI Institute students withdraw from active classroom involvement - work on own plan of implementation	1. Tour of Learning Research & Development Center
Aug. 3	1. IPI Institute students work on own plan of implementation	1. Submit final implementation plan for critical review
Aug. 4	1. IPI Institute students work on own plan of implementation	1. Tour of Oakleaf School
Aug. 5	1. Feedback session total LRDC staff and Institute students	

C. ENROLLMENT FOR IPI INSTITUTE

The following list is the names of the participants for the IPI Institute and the number of weeks each attended:

Six-Week Participants

John Almond	Trenton, N.J.
Edward Bruchak	Quakertown, Pa.
Eleanor Carton	Trenton, N.J.
Howard Cobb	Monterey, Cal.
Carolyn Dillon	Harrisburg, Pa.
Barbara Edgar	Dover, Del.
Ellen Harmeson	Dover, Del.
Helene Heuer	Quakertown, Pa.
Michael Hresko	Quakertown, Pa.
Joyce Lewis	Trenton, N.J.
Janet McKeever	Pittsburgh, Pa.
Jane Pfaff	Quakertown, Pa.
Addelle Schmick	Dover, Del.
Richard Strout	West Hartford, Conn.
Harold Studer	Harrisburg, Pa.
Pennay Traver	West Hartford, Conn.
Theresa Venanzi	Trenton, N.J.
Betty Wagner	Dover, Del.
Irene Waldron	Trenton, N.J.
Mary Yurasek	Quakertown, Pa.

Two-Week Participants

Phyllis Armstrong	West Hartford, Conn.
Eunice Cogswell	Danbury, Conn.
William Daly	Danbury, Conn.
Beverly Dick	Monmouth, Ore.
Alvin Goodfield	Danbury, Conn.
Ellen Leigh	Salem, Ore.
Ruth Letourneau	Danbury, Conn.
Mildred Linden	West Hartford, Conn.
Rita Purcell	Danbury, Conn.
Joseph Sanchez	Danbury, Conn.
Joseph Tezza	Doylestown, Pa.
Berniece Thayer	Monmouth, Ore.
Walter Voight	Danbury, Conn.

6. When and how prescription writing will take place.

7. Details about the role of the administrator during planning sessions.

   a. Providing for minutes of each session
   b. Provide leadership in arriving at group decision
   c. See that decisions are implemented.

8. Where the plans indicated that only one grade would be involved, some indication as to how the students would be selected is necessary.

9. Orientation sessions for teachers should begin with the first element, that is, the importance of behavioral objectives.

10. Plans should indicate how student progress will be reported to parents.

The following is a copy of the actual plan for implementation as submitted by the local districts.

A PLAN FOR

IMPLEMENTATION OF THE IPI PROGRAM IN

THE DOVER SPECIAL SCHOOL

PREPARED BY:

Barbara Edgar

Ellen Harmeson

Addelle Schmick

Betty Wagner

AUGUST, 1966

PHILOSOPHY

Throughout this century educators have been aware of the individual differences of pupils. Various solutions have been sought but until this time none have been practical for a classroom situation. However, with the modern technology we now have, this plan is at last feasible.

Teachers have always wanted "time to teach". Until now it has not been possible for a teacher to tend to the varying needs of each individual pupil because of the pressing classroom duties, the number of children involved, and lack of proper materials. Individually Prescribed Instruction will overcome these limitations.

Harold G. Shane states that there is evidence that individualization of school programs can save time and will reduce retardation of students. These are two extremely important points to take into consideration when evaluating the elements of IPI.

The IPI philosophy is basically the application of certain principles which teachers profess to be guided by. These principles are:

1. All learning must be stated in sequenced behavioral objectives
2. All materials must be based on self-instruction and the behavioral objectives.
3. Each child's starting level must be diagnosed to show areas of strengths and weaknesses.
4. Each child is given a unique prescription based on the diagnosis of his strengths and weaknesses.
5. A teacher must analyze and diagnose each child's progress which will serve as a basis for that prescription. Based on each child's progress the teacher must evaluate the child's rate of learning and the effectiveness of the materials. A teacher's role in the classroom includes instruction both for individuals and small groups with common needs. A teacher works with a team in evaluating each student's progress, the program, the procedures, and the materials.
6. The success of this program is evaluated on the quality of each child's experience and progress. Each child must be self-dependent, self-initiated, and self-evaluated by feedback.

FOR IMMEDIATE IMPLEMENTATION

Physical Plant- West Dover Elementary School

1. Materials Center - former gymnasium

   a. Math sheets stored on shelves or carts
   b. Reading sheets stored on shelves or carts
   c. Supplementary, manipulatory math aids stored adjacent to math sheets
   d. Supplementary reading materials stored adjacent to reading sheets
   e. Discs and record players, tapes, and tape recorders stored in area accessible to P1 and P2 children
   f. Filing cabinets for tests, placement, pre and post
   g. Filing cabinets for storing completed tests
   h. Storage for completed prescriptions
   i. Tables for aides
   j. Materials for small group work
      - Tables
      - Chairs
      - Movable blackboard

2. Grades 1, 2, 3, 4 (one each) located in rooms near the materials center.

3. Library - room near materials center.

4. Office of Project Director (collection data specialist) who is responsible for feedback of IPI data through RBS to the University of Pittsburgh for evaluation and possible modification of program and to Appleton Century Croft.

Orientation

Board

1. Possible joint meeting of Board of Education with teachers.

2. Extend invitation to Board to visit material center and IPI classrooms.

Staff

1. Introduction to IPI at general assembly first day of school by Dr. Wilson, Superintendent.

2. More specific introduction of program at first faculty meeting at West School.

3. Offer to visit with other faculties in district to explain program.

4. Invite other schools in district to visit material center and IPI classrooms.

SUBSTITUTES AND INTERESTED IPI TEACHERS
(To be organized in a handbook)

Evidence shows that individualization of a school program can save time, will reduce retardation of students, and is self-motivating. The essentials of such an individual system are:

1. A continuum of behavioral objectives in sequential form.

2. Behavioral objectives defined so tests will measure subject matter competence.

3. Continuous evaluation of pupil at all times so he can be guided along the continuum by individualized prescription writing.

A good program depends on analyzing data, tests, and effective prescription writing.

At the beginning all pupils are given a battery of placement tests in mathematics to determine their mastery level of each unit of work along the learning continuum. Analysis of this information shows the beginning level of instruction. A pre-test is given in that level which he placed the lowest. This will specify his strength and weaknesses for each skill. If he shows mastery in the pre-test, he will proceed to the next pre-test in the sequence. Otherwise his initial prescription will be written for the first skill he was deficient in including a C.E.B. to indicate his mastery of the objective. Skills needed will be prescribed one at a time making every effort to help him where he lacked mastery. When all necessary objectives within a unit have been mastered a post-test is assigned. Failure to show mastery on the post-test denotes the need for further analysis and work in those skills.

Mastery generates a repetition of the process in the next unit on the learning continuum. One level of work is completed before going on to the next level.

Mastery is determined by teacher judgment and agreed upon percentages:

Mathematics

Placement	80%
Pre-test, post-test	85%
Curriculum E. tests	85%

Reading

Pre-test, post-test	85%
Curriculum E. tests	85%

Prescription writing techniques:

1. Consideration of pupil's personal history
2. Speed with which a pupil works
3. Self motivation
4. Ease with which he masters a skill
5. Prescribe enough sheets in various approaches to the skill
6. Move the pupil along the continuum as rapidly as possible
7. Write on form:
   a. Unit and level
   b. Date and initials
   c. Page number and skill number

Mechanics:

1. Use red pen for prescription writing and any correcting
2. X will designate errors
3. C will designate errors corrected
4. Numbers on right hand side of tests are correct points - left: points not received
5. All white sheets show number correct over total number
6. All tests show number correct over total number plus percentage score
7. Pink papers in key folders are C.E.B. answers
8. Number system is used by aides for ordering of grading pupils' sheets
9. Flags show request for help
10. Teachers check, date, and initial papers, pupils have corrected errors
11. ✓ indicates on prescription sheet papers that pupil has corrected errors.

NON-PROFESSIONAL STAFF

Aides

1. Recommendations:

   a. 4 aides and 1 senior aide be hired
   b. 2 aides be used in an individual IPI class and 3 for two joint classes.

2. Qualifications:

   a. Be at least a high school graduate not from West School area
   b. Be a member of the tax community.

3. Salary - Each a suitable wage

4. Training - By Program Coordinator

5. Duties:

   a. Classroom functions:

      1. Scoring and recording all placement tests
      2. Scoring and recording all unit tests, making breakdowns of the test by skills, prescription sheets
      3. Scoring and recording all student worksheets, recording books, etc.
      4. Obtaining and placing all worksheets in student folders
      5. Helping with discs, tapes
      6. Replacing, duplicating continuum materials

   b. Functions Supplemental to Classroom:

      1. Keys and prescription folders
      2. Work pages, care, numbering, ordering, duplicating, etc.
      3. Weekly reports
      4. Filing necessary work

   c. Data work relevant to the study:

      1. That requested by Program Coordinator
      2. That requested by RBS
      3. That requested by University of Pittsburgh.

Use of Other Personnel

1. Future teachers of Dover High School to help in grading placement tests.

2. Delaware State College:

   a. Delaware College Education Juniors help in the grading of placement pre and post-tests
   b. Delaware College Education Seniors grade sheets in classroom.

Parents

1. Meeting of IPI parents at material center during regular P.T.A. open house.

2. Parent conference at end of nine weeks marking period

   a. Report cards
      1. Regular report cards for showing progress in other subjects
      2. Placement profile for showing achievement in Math and Reading

         a) One color ink used for original placement
         b) Different colors of ink used for teacher marking period for quick recognition of growth in each subject

      3. Panel discussion by IPI teachers at later P.T.A.

Children

1. General
   a. Each teacher explains purpose of IPI to his own class.

2. Specific
   a. Mechanics
      (as listed on another page)

EACH REPORTING PERIOD IDENTIFIED BY A DIFFERENT COLOR

SUGGESTED PROGRESS REPORT FOR MATH (IPI)
(for parents)

	I	H	G	F	E	D	C	B	A
Numeration									
Place Value									
Addition									
Subtraction									
Multiplication									
Divisions									
Combination of Processes									

SUGGESTED PROGRESS REPORT FOR READING (IPI)
(for parents)

	I	H	G	F	E	D	C	B	A
Critical Reading									
Explaining Relationship									
Figurative Language									
Phonetic Analysis									
Word Analysis									
Auditory Discrimination									
Organizational Skills									
Structural Analysis									
Vocational Skills									
Punctuation									
Oral Reading									
Rate of Reading									

IPI MECHANICS FOR PUPILS

1. Correct any errors on sheets in folder from previous day.
2. Do not erase but write answers that have been corrected near incorrect ones.
3. Worksheets are done in sequence.
4. When a sheet is completed, get a number for turn in grading.
5. Correct the errors before proceeding to the next page.
6. Check with teachers errors that have been corrected.
7. Flags are used to request help.
8. Teachers give help on directions or skills you do not understand.
9. If requested, teachers help on samples on placement, pre and post-tests.
10. Placement tests, pre-tests, and post-tests, after being checked for completion etc., will be taken to the aides in the material center.

Community Possibilities

1. Press
   a. Delaware State News
2. Radio
   a. W.D.O.V.
   b. W.K.E.N.
3. Television
   Open and closed circuit
4. University personnel for Service Clubs and P.T.A.

Materials used for orientation

1. Film strip (Connecticut)
2. Snapshots of our IPI schools.
3. IPI test materials to show parents how child placement is determined.

PLANNING SESSIONS

One half of the time be spent on:

1. Review the growth of each child along the learning continuum-periodic evaluation using flow charts.

2. Develop immediate strategies for special problems.

3. Advisability of seminars or small groups in the classroom to help with certain objectives.

4. Review and evaluate teaching materials.

5. Work with administrator to achieve future goals.

One half of the time be spent on:

1. Analyzing, evaluating sheets and diagnosing weaknesses on test.

2. Then actual recording the prescription on pink sheet.

Red - IPI Teacher's Planning Time

Black - Teacher Planning Time

(Schedule uses art, music, P.E., library, Dover's special teachers' Schedule needs to be expanded 70 minutes to provide 3½ hours per week per teacher planning time as is needed to put in one subject in IPI.)

Schedule 1 - Containing one 1 1/3 hour planning session per week per IPI teacher can be run Monday through Thursday. This provides for two 1½ hour planning sessions per week.

Schedule 2 - Containing two 40 minute planning sessions per week per IPI teacher can be run Monday through Thursday. This provides for four 40 minute planning sessions per week.

Schedules 1 and 2 - Can be run concurrently providing each IPI teacher with one 1 1/3 hour planning session and two 40 minute planning sessions per week.

		1a	1b	1c	1d	1e	2a	2b	2c	2d	3a	3b	3c	4a	4b	4c
8:30 - 9:10	I		Art						Music							
9:10 - 9:50	2											Art			Music	
9:50 - 10:30	3	Art					Music									
10:30 - 11:10	4	Music					Art									
LUNCH																
12:00 - 12:40	5															
12:40 - 1:20	6				Art			Music								
1:20 - 2:00	7					Music				Art						
2:00 - 2:40	8												Music			Art

One 1 1/3 hour planning session per week.

8:30 - 9:10	1							Art		Music						
9:10 - 9:50	2												Art			Music
9:50 - 10:30	3			Music		Art										
10:30 - 11:10	4				Music				Art							
LUNCH																
12:00 - 12:40	5										Art			Music		
12:40 - 1:20	6										Music			Art		
1:20 - 2:00	7		Music	Art												
2:00 - 2:40	8											Music			Art	

		1a	1b	1c	1d	1e	2a	2b	2c	2d	3a	3b	3c	4a	4b	4c
8:30 - 9:10	1				Lib					PE						
9:10 - 9:50	2							PE				Lib				
9:50 - 10:30	3												PE			Lib
10:30 - 11:10	4	Lib					PE									
LUNCH																
12:00 - 12:40	5										PE			Lib		
12:40 - 1:20	6			Lib								PE				
1:20 - 2:00	7							Lib	PE							
2:00 - 2:40	8															

Two 40 minute planning sessions per week.

8:30 - 9:10	1		PE										Lib			
9:10 - 9:50	2									Lib					PE	
9:50 - 10:30	3			PE		Lib										
10:30 - 11:10	4	PE					Lib									
LUNCH																
12:00 - 12:40	5										Lib			PE		
12:40 - 1:20	6				PE				Lib							
1:20 - 2:00	7		Lib			PE										
2:00 - 2:40	8														Lib	PE

Materials to implement IPI $9,000

Ordered by Research for Better Schools

1. 50 sheets each of the 4,000 sheet math continuum.
2. 60 math records (approx.) (additional copies may be ordere through RBS from University of Pittsburgh.)
3. Tests - placement, pre-tests, post-tests (these are printe free by Appleton Century Croft in return for IPI data to computerize.)
4. Thermofax.
5. 2 dozen record players.
6. 3 copies of each reading disc.

To be ordered

1. 2 black notebooks per student (810).
2. 1 grey folder per student (405).
3. 4 Language Masters.
4. Tape machines and tapes.
5. McGraw-Hill programmed readers thru 18
   40 copies 1 - 18
   2 complete sets of manuals
   15 copies of each supplementary reader
   Placement tests for 50
6. Transition readers - 10 copies of each
   11 scholastic paperbacks
   4 full-length paperbacks
7. Macmillan's color coded reading spectrum.
8. SRA reading lab - 1A, 1B, 1C, 2A
9. Letter cards - vowel, consonant, blends
10. Word and sentence builder games
11. Phonics games
12. Cuisonaire rods for all students

13. Number combination flash cards
14. Place value charts
15. Abacuses of varying complixity
16. Clocks showing insides and face
17. Thermometers - F. & C. liquid
18. Number line paper
19. Play money
20. Numeral charts to 100
21. Slide rules - simplest - 8
22. 8 meter sticks
23. 8 yardsticks
24. 1 doz. rulers each in 1/16, 1/8, 1/4, 1/2 inch, centimete
25. 1 doz. protractors
26. 1 doz. quality compasses
27. 8 percentage computers
28. Dice and domino games graduated in complexity
29. Gross red pens

Transition Readers

Scholastic paperbacks:

1. "I Can't" Said the Ant - Polly Cameron
2. The Five Chinese Brothers - Bishop & Wise
3. Curious George Gets a Medal - H. A. Rey
4. The Biggest Bear - Lynn Ward
5. How to be a Nature Detective - Millicent Selsam
6. How Animals Sleep - Millicent Selsam
7. How Big is Big - Herman & Nina Schneider
8. Christopher Columbus - Ann McGovern
9. Johnny Appleseed - Eva Moore
10. The Wizard of Menlo Park - Mickie Compere
11. The Adventures of Geo. Washington - Mickie Davidson

Other Paperback Books:

1. Clarence, the TV Dog - Patricia Lauber
2. Pippi Longstocking - Astrid Lindgren
3. The Cabin Faced West - Jean Fritz
4. The Magic Tunnel - Caroline B. Emerson

For Future Implementation

1. Involvement of the rest of the West Dover Elementary School within time limit set by RBS of September, 1967.

   4 first grades
   3 second grades
   2 third grades
   2 fourth grades

2. Recommendations for expanded program:

   a. Provide planning periods to total at least 7 hours per week per teacher as developed at Oakleaf. IPI materials must be used in the building and after school work time must be budgeted for non-IPI teachings.

   Example -

Grades 1 - 2		Grades 3 - 4
9-10	Reading	Planning (every day)
10-11	Planning (every day)	Reading
11-12	Lunch	Lunch
12- 1	Math	Non-IPI
1- 2	Non-IPI	Math
2- 3	Planning (M & W)	Planning (T & Th)

   b. Provide for increased adequate aide service.

   c. Provide at least 3 floating teachers, one of which is a Reading Specialist and one of which is math oriented.

   d. Develop an additional materials center with proportionate increase in all materials.

   e. Provide an opportunity for interested teaching personnel to serve as teacher in IPI room and/or visit McAnnulty School.

   f. Expand special services to accommodate IPI planning program as well as upgrade the quantity and quality of these token programs.

g. Develop liaison with various disciplines of Delaware State College and University of Delaware

1. Senior education majors might be used as student teachers in IPI
2. Junior education majors might be used in correcting placement tests
3. Computer Center at University of Delaware.

h. Use University of Pittsburgh and RBS personnel for disseminating IPI system of instruction at state and county meetings of educational associations.

i. In selection of additional IPI teachers, look for flexibility, team workers who will do their share, willing workers who will make their time count and teachers with a high level of toleration.

A PLAN FOR

IMPLEMENTATION OF THE IPI PROGRAM IN

QUAKERTOWN COMMUNITY SCHOOLS

PREPARED BY:

Miss Helene Hever

Miss Jane Ann Pfaff

Miss Mary Yurasek

Mr. Edward Bruchak

Mr. Michael Hresko

AUGUST, 1966

PREFACE

For the past century, educators have concerned themselves with individual differences among pupils. Innovations for individual instruction have been introduced with little, if any, nationwide approval. Provisions for individual differences within the classroom have usually burdened the already overworked teacher and created adverse effects towards new innovations.

We believe that LRDC of Pittsburgh University has developed a system which is unique and worthy of adopting in a school system interested in satisfying the needs of individuals. A major aspect of the problem is that it has made it possible for the teacher to manage individualized instruction.

INTRODUCTION

It is our intention to implement individually prescribed instruction in grades one, two, and three at the onset of the 1966-67 school year.

This plan was chosen to fit the immediate situation within our school. The children will be heterogeneously grouped with approximately thirty pupils per classroom with an estimated total of 100 participating in the IPI program.

As the year progresses, it is our intention to incorporate grades four, five, and six in the program. This of course, will depend upon the interest of the intermediate grade teachers.

The subjects that will be undertaken by our school system, pending availability of necessary materials, will be mathematics and reading.

OUTLINE FOR IMPLEMENTATION

I. <u>Floor Plan</u>

- A. Classrooms
- B. Materials center
- C. Aides center
- D. Audio visual aides room

II. Scheduling

A. Special teachers

B. IPI teachers' periods

C. Planning sessions

D. IPI grouping

III. Materials

A. Storage

B. Printed sheets - programmed learning

C. Audio visual materials

D. Supplementary

E. Miscellaneous:

1. Moveable equipment
2. Student folders
3. Files
4. E-Z Graders
5. Red marking pens
6. SRA materials
7. Literature Sampler
8. Macmillan Spectrum

IV. Orientation

A. New teachers and substitutes

1. Prepare for Pittsburgh visit
2. Visitation to:
   a. McAnnulty
   b. IPI classrooms
3. In-service programs
4. Personal interviews

B. Aides

1. Selection
2. Preparation
3. Training

C. Parents

D. Students

V. Evaluation

I. Floor Plan

Due to the overall structure of the school, we as a group, decided to use the new wing (see floor plan) as our center of concentration for individually prescribed instruction. The reason - ample space.

Grades one, two, and three will have access to the materials center and library. We also located grades four, five, and six in the new wing with the intention of involving them in the IPI program during the 1966-67 school year.

The materials center and the aides' room are tentatively set for the first year. We feel there will be need for an additional materials center as well as an additional aides' room due to the size and enrollment of the school, (see diagram for second year).

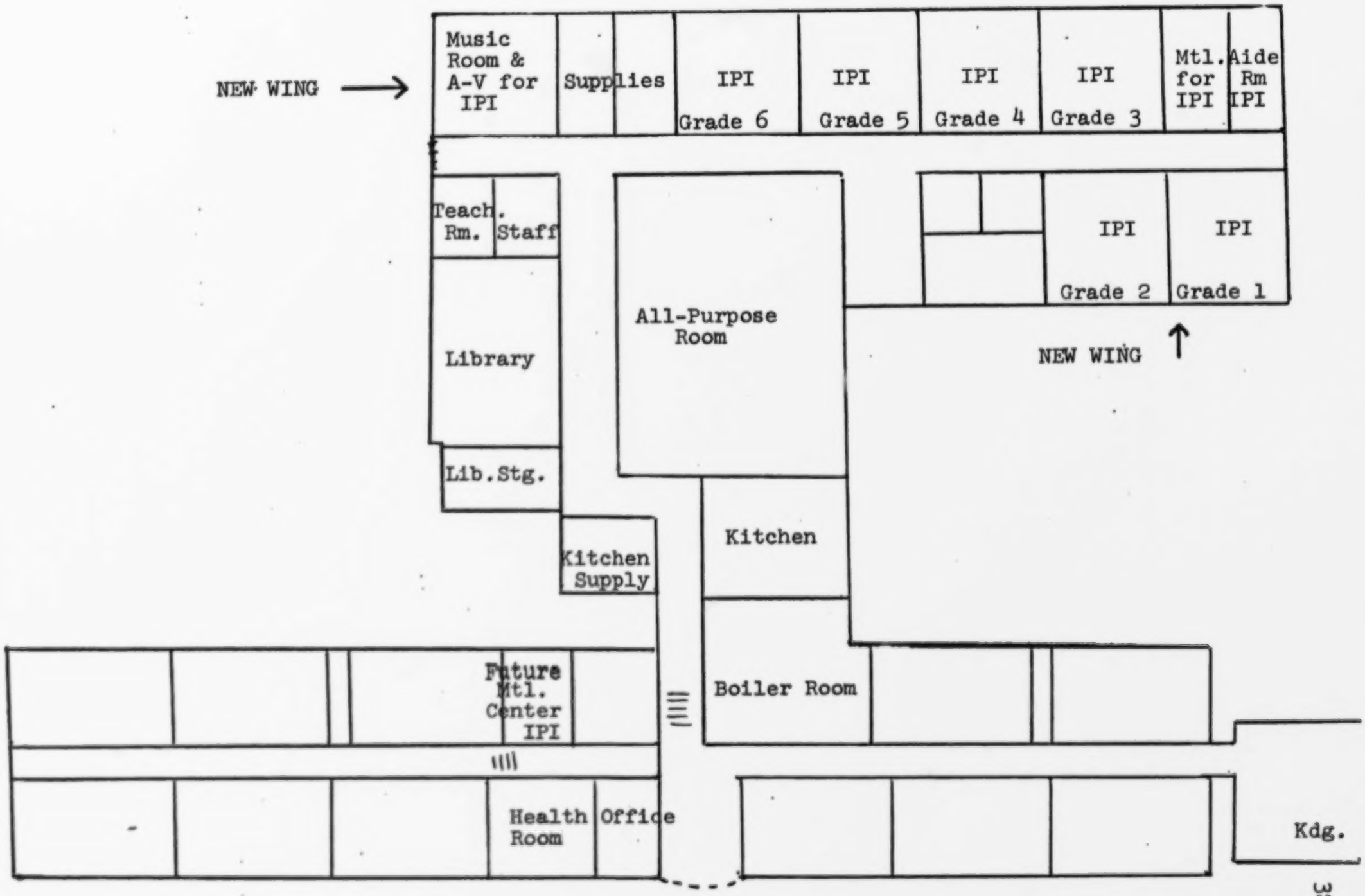
The music room, with proper scheduling will be used by both the music personnel and primary grades basically for reading. Record players and discs will be kept in the music room and will be available for grades one, two, and three.

II. Scheduling

Scheduling has been derived to provide for the best utilization of the professional and non-professional staff. IPI subjects are so scheduled not to conflict with each other. The school year schedule has been divided into two phases. The first phase will begin in September or whenever materials are available and the second phase to be initiated about mid-year.

Three classroom teachers and a coordinator will be assigned in IPI during the first phase. The coordinator will be available for both subject areas in grades one, two and three. Music, art, and library are so scheduled as to permit the four IPI staff members three planning periods a week.

The second phase provides for the initiation of IPI into grades four, five, and six. With this addition of three classrooms into the program, grouping will take effect. These groups are as follows: Primary I - grades one and two, Primary II - grades three and four, Intermediate - grades five and six. Music and art are so scheduled to provide two planning sessions for each group.



RICHLAND BUILDING, QUAKERTOWN, PA.

	MONDAY			TUESDAY			WEDNESDAY			THURSDAY			FRIDAY		
	grade1	grade2	grade3	grade1	grade2	grade3	grade1	grade2	grade3	grade1	grade2	grade2	grade1	grade2	grade3
8:30 8:40															
8:40 9:30			Read-ing			Read-ing			Read-ing			Read-ing			Read-ing
9:30 10:20		Read-ing			Read-ing			Read-ing			Read-ing			Read-ing	
10:20 10:35	R	E	C	E	S	S	⟷			R	E	C	E	S	S
10:35 11:25	Read-ing			Read-ing			Read-ing			Read-ing			Read-ing		
11:25 12:25							LUNCH								
12:25 1:15		Math			Math seminar	Math		Math seminar	Math		Math		Math		
1:15 2:05	Math			Music	Art (Planning)	Library	Library	Music (Planning)	Art	Math			Art	Library (Planning)	Music
2:05 2:55			Math	Math			Math				Math			Math	Math
2:55															

	MONDAY			TUESDAY			WEDNESDAY			THURSDAY			FRIDAY		
	PRIM I	PRIM II	INTERMED	PRIM I	PRIM II	INTERM.	PRIM I	PRIM II	INTERM.	PRIM I	PRIM II	INTERM	PRIM I	PRIM II	INTE.
8:30 8:40															
8:40 9:30		Read-ing			Read-ing			Read-ing			Read-ing			Read-ing	
9:30 10:20	Read-ing			Read-ing			Read-ing			Read-ing			Read-ing		
10:20 10:35	R	E	C	E	S	S	←	→		R	E	C	E	S	S
10:35 11:25			Read-ing			Read-ing			Read-ing			Read-ing			Read ing
11:25 12:25							LUNCH								
12:25 1:15	Math			Math	3Math 4Art Plann-ing	Libra-ry 5	Math			Math	3 Art 4 Music Plann-ing		Math		
1:15 2:05	Lib-rary 2	Math	5 Music 6 Art Planning		Math	Lib-rary	Libra-ry	Math		Math Sem-inar	5Art 6 Music Plann-ing	Libra-ry		Math	
2:05 2:55			Math		1Math 2Art Plann-ing	Math	Libra-ry		Math		Math	1Art 2Music Plann-ing			Math Semi ar
2:55 3:00															

We have made provisions in our schedule to have planning sessions three times a week (see schedule). The teachers will be freed for planning by the use of the special art and music teacher and librarian.

The purpose of the planning session is to evaluate pupil progress as well as to discuss any problems that arise. During orientation of new IPI teachers we will impress upon them the importance of airing all problems only in the planning sessions. Not only problems will be discussed but any new ideas or procedures not conflicting with the IPI program will be given consideration.

We know that we can expect many problems, as in any new program: however, a few of the problems we anticipate are as follows:

A. Individual pupil problems such as pupils who fail CET after doing worksheets and pupil's extreme difficulty in a certain unit or skill.

B. Discussing parent and community reactions to IPI.

C. Planning for group instruction for children with similar problems.

D. Time for questions by observers.

E. Discussing more efficient use of aides.

III. Materials

Materials are listed that will be required for the successful development of the IPI program. Careful consideration was given to the amount and type of materials needed to insure the efficiency and stability. It is with understanding that the list will be supplemented as the program proceeds when the IPI teacher discovers that other materials will be required to fulfill the program.

REQUIRED MATERIALS

50 each	4,000 math worksheets of continuum
50 each	3,000 reading worksheets of continuum
120 each	placement tests - lower
120 each	placement tests - upper
100 each	pre-tests
100 each	post-tests
6 sets	keys for placement tests

6 sets	keys for pre-tests
6 sets	keys for post-tests
10 sets	keys for individual math worksheets
10 sets	keys for individual reading worksheets
3 sets	60 math discs (total 180)
3 sets	440 reading discs (total 1,320)
12 each	set of Scholastic paperbacks for transition
3 each	SRA Reading Laboratory - Intermediate
1 each	SRA Reading Laboratory - 1A
1 each	SRA Reading Laboratory - 1B
1 each	SRA Reading Laboratory - 1C
2 sets	McGraw-Hill Reading Series
36 sets	Alphabet Cards for teachers)
1 set	Alphabet Cards for pupils)
1 each	Literature Sample - Intermediate
1 each	SRA Word Games
2 doz.	E-Z Graders
6 each	Filmstrip previewers
300 each	3-ring notebooks
600 each	Duotang Portfolios (2 different colors)
3 each	portable table with attached bench
4 doz.	red ball point pens with erasers
1 each	steel file cabinet

V. Orientation

At the onset of the school year all elementary teachers will be given an overview of the IPI program. The teachers who show interest in the program will be invited to a meeting where the program will be discussed thoroughly.

Those who will be entering the program this school term in grades four, five, and six will then plan a visit to McAnnulty School. Before the visit, they will be briefed by the IPI workshop teachers as to what to look for and why. These teachers along with others who are interested will be given an opportunity to visit our own IPI classrooms. We plan to free the teachers for visits by use of the special teachers as well as substitute teachers. A prerequisite will be a brief meeting, preferably the day preceeding the visit, where an outline will be presented as to what to observe. The short meeting will include the IPI teacher and the project coordinator.

In addition to the above plans, in-service programs will be designed to better acquaint new teachers as well as substitutes with IPI. Another important means of familiarizing teachers with IPI will be personal interviews with personnel who attended the six-week summer workshop.

We feel at the start of the program the less the parents know about it, the better. However, we will be glad to answer questions relating to IPI as they arise and in due time schedule a P.T.A. meeting with a knowledgeable person as speaker (Robert Scanlon).

The role of the student in IPI as we see it is to develop the sensitivity within himself to be self reliant as well as an independent thinker.

It is felt that during our in-service program for teachers entering IPI, the following topics would be thoroughly discussed:

1. Essential elements of IPI

2. Educational Diagnosis

3. Diagnostic Instruments (placement, pre, post-tests, C.E.T.)

4. Prescription Writing

5. Teaching Techniques

Orientation of the aides will be the duty of the coordinator. Criteria for selection of are as follows:

1. Must possess high school diploma

2. Must take loyalty oath

3. Must have good physical health

4. Must live outside the immediate vicinity

5. Must have pleasing personality.

Six aides will be hired initially. After the scoring of placement tests, three will be selected as full time and three as part time. If need be, others may be added to the payroll later.

Two aides will be working in the individual classrooms while the third will also be available for assistance in the materials center. During the IPI McGraw-Hill reading classes, one aide will be responsible for the audio visual materials such as setting up record players, finding discs, and correcting accompanying worksheets.

Instructions will include information and procedures about testing and scoring, visitations to classrooms, recording data, filing and organizing materials center, scheduling of time in classes and information concerning audio visual materials.

As an alternative, use can be made of the Future Teachers Group in the high school. Just how and why will be determined as the need arises.

The following is a list of duties of the teacher aide:

1. Aides will score and record all results of the placement tests, pre-tests, worksheets, curriculum embedded tests, post-tests, and McGraw-Hill material according to the key.

2. Aides are not to instruct. No discussion with child about work is to take place.

3. Aides must follow the time schedule for efficient IPI procedure.

4. Everything will be marked and recorded in red ballpoint pen.

5. Aides will assist in audio visual room by locating discs for pupils, assisting with the machines, and scoring and recording all accompanying work pages.

6. Classroom aides will score and record books and tests of McGraw-Hill series (1-14). They can also listen to and record oral reading tests if teacher judgment is not needed.

7. On placement, pre, and post-tests the score for each page will be recorded on that page - the number correct on the left side and the number wrong on the right. A summary of each page or skill will be written on the first page indicated by score and percentage such as:

Skill	Score	%	
1a & b	4	100	
2a & b	2	33	
3	10	100	$\frac{42}{57} = 74\%$
4 & 5	14	100	
6	6	60	
7	5	50	

8. All test results will be recorded in the proper places. The math placements are recorded on placement score profile sheets. Pre and post-tests are recorded on a unit test record and prescription sheet (front and back). The worksheets and C.E.T. sheet results are recorded on prescription sheets of each pupil.

9. Pull pre-test from pupil folder only before the post-test is to be taken or after mastery is written on the prescription sheet if no post-test is required.

10. Pull post-test only after mastery is written on the prescription sheet by the teacher.

11. All tests numbered in the order taken will be filed in each student's test folders. These are filed in a cabinet in the aides' room.

12. Students' prescription sheets will be placed in student's notebook after mastery.

13. Aides must check worksheets and tests daily and replace continuum materials while in the center.

14. Aides must assist children in pulling prescribed worksheets and tests from center.

V. Evaluation

The present method of pupil evaluation in the Quakertown Elementary Schools is not quite satisfactory for parental understanding of the progress of the individual child in the IPI program. Pupil-reporting within the conventional classroom concerns itself with how the child performs in work prescribed for that particular grade. On the other hand, the IPI student is working individually and independently on a non-graded learning continuum and can only be evaluated on an individual basis.

It would seem unwise at this time to make suggestions to eradicate the present grading methods for the IPI program which will be instituted in but part of the elementary school system of Quakertown. Therefore, the IPI child will be evaluated and given appropriate letter grades based on present reporting procedures.

However, our intent is to supplement the above with a graph-type profile which will indicate for the parent the child's progress on the learning continuum in math and reading.

In conclusion, we believe that as our IPI program develops and matures, staff personnel in the program will bring about a form or method evaluating the pupils which will be in harmony with the newly innovated program.

A PLAN FOR

IMPLEMENTATION OF THE IPI PROGRAM IN

HARRISBURG CITY SCHOOLS

PREPARED BY

Carolyn J. Dillon

and

Harold R. Studer

AUGUST, 1966

DIVISION ONE

Background Data

Philosophy

General Objectives

DIVISION TWO

Problems of Implementation

Schedules

Materials

Essentials of IPI

DIVISION THREE

Faculty Discussion Topics

Aide Training Checklist

Action Reminder Checklist

DIVISION ONE

Background Data

Downey School is one of fourteen of the K - 6 elementary schools of the Harrisburg City School District. Of the 543 students enrolled last year, 282 came from homes that were designated as low-income families under the eligibility criteria of the Elementary-Secondary Act of 1965. It therefore qualified as a "target" school under the provisions of this act.

As a target school, Downey children participated in a number of special summer programs which were initiated and put into effect this year. Such programs provided for participation in:

Hearing-handicapped classes
Speech therapy and language classes
Counseling and psychotherapy of adjustment problems
Piano, string and wind instrument classes
Outdoor education classes
Summer art classes

Approximately one-half of the Downey school students are a year or more below grade level by the time they complete the sixth grade, according to the Stanford Achievement Test Battery Median. This percentage rises by five percentage points in the areas of arithmetic and reading, so that well over half of the students are over a year below grade level in their sixth year in these areas. By the time these children reach grade six, underachievement averages one and one-half years.

The adults of the Downey attendance area live in project homes near the school. The average adult, 25 years or more of age, has completed 10.7 years of school.

The Downey school building with 14 classrooms, a library, and an all-purpose room was constructed in 1953. Six additional classrooms were added in 1960.

Many of the teachers at Downey have participated in summer workshops over the past two years. Workshops were held in these areas: individualized instruction techniques, modern math, speech education, and reading.

Seventeen teachers will be assigned to that same number of rooms. In addition, we expect to have two "floaters" who will be available to help out in each of the IPI classes sometime during each day.

There follows a table showing the auxiliary services now available to each classroom:

SERVICE	NO OF SESSIONS	MINUTES/SESSION
Library	2/month/class	30
Music	4/month/class	30
Phys. Ed.	4/month/class	30
Art	1/month/class	60

These services will have to be extended so that enough time is available for the critical IPI planning by teacher teams.

Parent-teacher conferences have not been a part of the Downey routine in the recent past. Two-thirds of the teaching staff will be new to the building this coming year. Thus a teacher handbook will be prepared which includes the materials in the appendix to this report.

Philosophy

We believe that a school's philosophy should reflect the community position in terms of the educational needs and desires it has for its children.

Our philosophy is rooted in a basic set of generally accepted principals regarding human behavior and the learning process. Among these principals are the following:

1. Human behavior which is not inherent is learned. Learning itself is neither good or bad, it is a fact of life. However, the skills, values and attitudes which are learned may be desirable or undesirable.

2. Learning involves the ability to retain and apply knowledge, skills and ideas in meeting and making some meaning out of each new experience.

3. When a child is free to choose, he does so in terms of inner values which in turn will cause him to feel responsible for his acts.

4. Each child learns best through experiences and situations which have meaning and are acceptable to him. He also learns through precept and example.

5. A child learns with all his faculties, directly and indirectly, and thus may learn many things which were not consciously being "taught".

6. A child learns best when situations lead from the concrete to the abstract. Exercise or practice, if properly evaluated, can advance his achievement.

7. The talents of each child can be developed through encouragement and stimulation in an environment of success and acceptance.

8. Creative expression is essential to the total development of each individual.

9. Learning depends on a great many factors and since children of the same ages do not grow or learn at the same rate of speed, a curriculum must be established which meets the needs of all children.

General Objectives

The educational program must:

1. Fulfill the needs of each child of every family so that each may achieve his optimum according to his ability.

2. Provide for the acquiring of as much knowledge as possible about the world in which we live, the ways in which this knowledge has developed, the ways in which it is measured, and the people who share it.

3. Provide for the acquiring of conceptual understanding and practice in the basic skills necessary for functioning adequately and communicating effectively in our society.

4. Provide for the development of an understanding of, the need for, and the ability to engage in the processes of inquiry and reflective and analytical thinking.

5. Provide for development of independent thinking, wise decision making, and cooperative action.

6. Provide for the development of self-respect and a wholesome, positive self-image.

7. Provide for the development of respect for individuals who may be different from him.

8. Provide for the continuing program of testing and guidance so that children learn to plan, organize, evaluate and act in a more self-directive manner.

DIVISION TWO

Problems of Implementation

I. Physical Arrangements

A. Receipt and storage of IPI materials
B. Space usage

1. Teacher planning center
2. Aide center (lounge)
3. Materials center
4. Classroom assignments

C. Budgeting for physical needs

II. Planning of Schedules

A. IPI program schedule
B. Teacher schedule for auxiliary services
C. Schedule for aides
D. Daily teacher schedule

III. Problems of Information Dissemination

A. Communicating with parents

1. Form letters
2. PTA programs
3. Parent-teacher conferences
4. Informal social hour
5. Open-house
6. Report on pupil progress (written)

B. Communicating with teachers (staff)

1. Form letter to incoming teachers

a. Philosophy
b. Continuum
c. What preparations have gone on

2. Plan teacher discussion groups and meetings

a. Written instructions on the mechanics of the program discussed.
b. Discussion of the specific objectives as related to the teaching materials.
c. Discussion of development of behavioral objectives and their use.
d. Discussion of the mechanics of getting teacher feed-back of experience to the team and total school.

F. Communicating with Aides

1. Form letters to incoming aides
2. Plan aide discussion groups and meetings

G. Communicating with RBS (Research for Better Schools)

1. Mailing data
2. Mailing Bulletins
3. Mailing analysis of results

IPI MATH
SCHEDULING
FOUR CLASSROOM MODULAR UNIT

NOTE: This is a general plan to be applied in scheduling the weekly prog after the available auxiliary services (art, music, etc) are known.

	a.		b.	Teams
	1st T-1 9:00 - 9:55 MATH	Floater -A 9:00-9:55 9:30-9:50	2nd T-2 9:00 - 9:55 MATH	Module W a+b
	1st T-3 9:00 - 9:55		2nd T-4 9:00 - 9:55 prescriptions (test)	
	10:00 - 10:45	Prescription Writing		
	1st T-5 10:50 - 11:45		2nd T-6 10:50 - 11:45	
	Seminar T-Th.	10:50-11:20 Floater -A 11:20 -11:45	Seminar T-Th	Module X a+b
	3rd T-7 10:50 - 11:45		4th T-8 10:50 - 11:45	
	11:45 - 12:15	Prescription Writing		
	3rd T-9 10:50 - 11:45	10:50- 11:20 Floater- B 11:20- 11:45	4th T-10 10:50 - 11:45	Module Y a+b
	3rd T-11 10:50 - 11:45		4th T-12 10:50 - 11:45 (test)	
	11:45 - 12:15	Prescription Writing		
	Seminar T-th.		Seminar T-th.	
A.	5th T-13 9:00 - 9:55	9:00 - 9:55 Floater- B 9:25 - 9:50	6th T-14 9:00 - 9:55	Module Z a+b
B.	5th T-15 9:00 - 9:55		6th T-16 9:00 - 9:55 (testing)	
	10:00 - 10:25 10:25 - 10:50	planning - planning -	Group A Group B	
	Seminar M.-W.		Seminar M.-W.	

GRADE	NO. OF ROOMS INVOLVED	TEAM ASSIGNMENT*
1st	3	"A"
2nd	3	
3rd	3	"B"
4th	3	
5th	2	"C"
6th	2	

STAFF

16 teachers
5 aides
1 principal-director
1 demonstration teacher (Part-time)

SUBJECTS

A. MATH - to be implemented in every grade, excluding Kindergarten, by the end of the first nine weeks of school.

B. READING - to be implemented in February, 1967.

* A different team leader will be assigned each day to eliminate excessive loading of one teacher.

Materials Needed for Implementation

7 sets of answer keys
400,000 math sheets
2 doz. record players (use only for prepared discs) magnetic pick-up.
3 copies of each reading disc
3 duotane folders per child
2 language master machines?

Tests - Appleton Century Croft (no charge) will also computerize (no charge). They want a copy of each prescription made. They will provide prescription sheets.

Notebooks for answer keys?
Teacher prescription files?
Student flow charts
Notebooks for classroom enrollment listed as to level and skill
McGraw-Hill books not yet ordered
Worksheet cabinets

RBS BUDGET

File cabinets
Red pens
Percentage charts (E-Z Grader Co., Box 4531, Cleveland, Ohio, 44124) 2 per teacher

Materials

Lesson materials must be effectively geared for independent work, because most of the students work with a minimum amount of teacher instruction. The following should be stressed for development of additional materials.

A. Behavioral objectives with an example of an activity should be clearly stated, and written.
B. Materials should be selected or prepared for each specific objective from the learning continuum.
C. The material should provide students with the opportunity to practice the particular objective listed on the learning continuum.
D. The possible range of age and interest of individual students must be considered in prescription preparation.
E. Organization of materials:

   1. Prepare answer keys
   2. Consider storage and housing
   3. Consider number system

F. Materials should be easily identified as to level, unit, and skill; therefore this information should reappear on each piece of material.
G. Materials must be of the "doing" nature for children rather than of the explanation type.
H. All materials, covering the entire curriculum sequence, should be available in complete form prior to implementation of IPI.
I. Materials need to be prepared in a form which facilitates the preparation of individualized sequences for each student.
J. Procedures should be established to permit lesson materials to be continuously analyzed (pupil performance).

Essential Elements of IPI

I. Objectives should be listed in such sequence and detail. These lists must be followed exactly in carrying out other aspects of the program.
II. A basic part of the IPI procedure is the provision for diagnosis of skills and abilities and a continuous assessment of progress in these skills and abilities.
III. IPI requires that each student's work be guided by written prescriptions.
IV. The role of the teacher changes from much lecturing to examining the students' needs and preparing individual lesson plans.

More time will be spent in helping individual pupils and evaluating their work. The teacher will spend more time in frequent staff conferences.

V. Pupil activities are for the most part those of independent study. It will involve writing answers, solving problems, performing experiments, and other overt activities.

Pupils will make more of their own decisions. He is getting frequent feed-back on the progress he is making.

DIVISION THREE

Faculty Discussion Topic (or) "1201 News" Article

"What is IPI?"

Individually Prescribed Instruction is a systematic plan to further provide for instruction on an individual basis. It features a program that is individually paced and personal to each learner.

The instructional programmed materials are organized in such a way that ignores the typical graded system. Each student is expected to work at his own rate. The paced instruction is designed to insure the pupil success as a reward for his individual efforts. It is possible that one effect of this technique can be the gradual development of a new self-reliance which releases the child from a dependence upon others and permits him to deal more effectively with the printed page.

It is dependent upon the use of materials which are designed to insure that the learner follows a series of graduated steps in a predictable manner.

The materials are such that the pupil can learn with a minimum of teacher direction, and yet there is insurance that he is following a sequentially organized curriculum. This should be highly effective in his learning achievement.

Faculty Discussion Topic

The Teaching Process

The act of teaching is somewhat changed under IPI. The teacher must be prepared to change from a person who is primarily concerned with coverage of subject matter to a person who becomes more expert in solving problems that create barriers for students. He must know how to evaluate and organize materials and concern himself with motivating, guiding, and evaluating materials from the students, so that they in turn, become better able to organize, establish guidelines for, and evaluate what they are doing.

In IPI the teacher's acts, after diagnosis and prescription preparation focus on several key points:

Instructional Role

A. Interacting with the students individually by providing precise, clear, and relevant information when it is needed.

B. Lecturing, aimed at one student with a specific learning problem.
C. Setting aside seminar days to bring together common problems, permitting students to share learnings, and generally conducting a discussion lesson.
D. The teacher should be available for help when required or requested.
E. The teacher must provide time to employ the recitation method.

The Teacher As A Diagnostician

A. The teacher must focus on strengths and weaknesses.
B. Assign appropriate learning materials.
C. Provide the needed flexibility of the teaching-learning situation.

IPI permits teachers to continuously evaluate the materials used in learning a particular objective.

Need For Clear Objectives

Teachers must assess the extent of changes that occur in the many ways our students overtly act, feel and think. We must have concrete and specific standards against which student changes can be measured. These standards (objectives) are helpful only as they actually describe exactly what the pupil should be able to do to exhibit his mastery of a given skill or subject.

Such objectives must be more specific than the usual definitions of student behavior termed as "understanding addition" or "interested in numbers."

CHECK LIST

AIDE TRAINING FOR IPI

I. Introduction to mechanics

- A. Prepare notebooks with samples of materials.
- B. Develop sets of written instructions.
- C. Discuss scoring procedure.
- D. Discuss functions
  1. Distinguish line of instructor and aide
  2. Supplemental functions

II. Prepare a schedule so that materials will be ready for next day.

III. Aides will be in the building two weeks prior to the opening of school.

1. Acquaint them with materials center
2. Acquaint them with:
   - a. Symbols
   - b. Weekly reports
   - c. Graphing
   - d. Prescription filling
   - e. Inventory
   - f. Filing keys
   - g. Duplicating procedure
   - h. Building
   - i. Pupil permanent filing

ACTION

REMINDER CHECKLIST

1. Demonstration of methods and materials
2. Professional meetings
3. Bulletins of classroom instruction
4. Professional reading and study.
5. Workshops
6. Arranging visitations
7. Guided self-evaluation
8. Classroom organization helps.
9. Define areas of study to be explored:
   a. Identify goals
   b. Evaluate information
   c. Examine pupil-teacher relationships
   d. Analyze test results
   e. Conferences, appraisal of effectiveness

A PLAN FOR
IMPLEMENTATION OF THE IPI PROGRAM IN
THE WASHINGTON SCHOOL

TRENTON, NEW JERSEY

AUGUST, 1966

(A Preliminary Draft for Action)

TABLE OF CONTENTS

I. Preface

II. Physical Requirements

A. Classes
B. Storage of Materials
C. Planning Area
D. Aides Room
E. Group Instruction

III. Materials

A. Types of Instruments
B. Supplementary
C. Scoring Materials
D. Miscellaneous Equipment
E. Movement of Materials

IV. Programming

A. Planning Time
B. Schedule

V. Orientation

A. Teachers

1. In service training
2. McAnnulty visitation
3. Substitutes

B. Aides

1. Qualifications
2. Training
3. Salary

C. Children
D. Parents

VI. Evaluation

A. IPI program
B. Teacher Performance
C. Formal Pupil Evaluation
D. Informal Pupil Evaluation

7.

I. Preface

It has long been the desire of a great many teachers to be able to adequately provide for the individual differences of the children in their classrooms. This summer we have been able to observe and participate in an experiment using individually prescribed instruction. As a result of this experience, we are hoping to be able to institute this program in the second and third grades at Washington Elementary School in Trenton, New Jersey.

We feel that the children of Washington School will be able to profit from the use of the IPI techniques. With the utilization of individually prescribed instruction the work of the learner will be tailored to his needs and ability, and the pace he establishes will depend largely on his maturation as well as motivation.

There are certain basic prerequisites for implementing an IPI program in any school. They are: providing for an adequately trained staff; meeting physical requirements (classrooms and storage); arranging for planning time; orienting pupils, teachers, aides and parents with IPI; providing for continuous evaluation, and supplying the necessary materials and equipment for the program.

Of the above basic prerequisites the Trenton group has been able to plan for all but one, namely, the scheduling of planning time. Presently, we do not have sufficient auxiliary services to permit any freed time during the school day for planning and prescription writing. Therefore, the Trenton group recommends that $9500 of the Research for Better Schools, Inc.'s budget be utilized to compensate the instructional staff for the extra work necessary to run the program. This amounts to paying each teacher $1500 per year for the additional time necessary for planning and that same amount multiplied by the ratio in effect for the principal.

If this cannot be accomplished, then we recommend that the superintendent request that the Trenton Board of Education provide this additional money or withdraw from their original contract with Research for Better Schools, Inc. as soon as practicable. We feel that planning time is essential to the success of the program.

II. Physical Requirements

1. The following classrooms will be utilized for the use of IPI instruction in the school year 1966-67:

A6 - A7 - A21 - B9

2. The material center and the room for clerical aides will be housed in A22. In addition to the regular supplies used in the IPI program, the audio and visual materials will be stored in the closets in the classroom. Room A22 is approximately one and one-half times the size of a regular classroom and contains lavatory facilities which can be used by the clerical staff. This same room will also be available for the teachers of IPI to use for planning in the morning and/or after school.

3. The library will be used in the morning for tutoring purposes. Since we do not have a free room before 2:15 p.m. daily, it may be necessary to use the entrance to or [illegible]e stage of the auditorium between 12:45 and 2:00 p.m. (if tutoring or small group instruction is deemed advisable at that time).

The following is a sketch of the floor plan of [illegible]shington School. It is not constructed according to scale, since that information is not available in Pittsburgh at this time. Its purpose is to help the reader determine the location of the IPI classrooms in relation to the materials center:

First Floor

Receiving Room

Stair

Nurse's Office

Supply Closet

A-22 Materials Center

Cabinet

Entrance

A-21 Miss Waldron 2nd grade

A-20 1st grade

A-19 1st grade

ance & Stairs

ance to ditorium

loset

Kdgn.

Office

Entrance

Lavatory

A-6 Mrs. Lewis 2nd grade

A-7 Mrs. Delie 3rd grade

City Reading Dept.

Lavatory

Auditorium

Gymnasium

Second Floor

B-18 Educable

B-17 Educable

Library

Stairway

B-15 5th Grade

B-14 5th Grade

B-13 6th Grade

Stairway

Lockers

Showers

Stage

Stair

B-1 Trainable

B-2 Educable

Book Room

B-4 Educable

Lavatory

B-7 4th Grade

B-8 4th Grade

B-9 3rd Grade Miss Venanzi

Lavatory

Faculty Room

Kitchen & Lav.

III. Materials

A. Types of Instruments

1. Placement instruments

a. Lower placement instrument tests

1. Arithmetic placement score profile
2. Lower level placement profile
3. Prescription sheets

b. Upper-level placement instrument tests (to be ordered if need is indicated)

1. Upper level placement profile

2. Pretest instruments
Pretest sheets

3. Continuum worksheets
Levels A to E in Mathematics

4. Curriculum embedded tests (CET)

5. Post-test instruments
Post-test sheets

B. Supplementary Materials

1. Independent game aids to be ordered when IPI planning begins in Washington School.

2. Recorded materials

a. Record players
b. Discs

C. Scoring Materials

1. Sets of scoring materials to be used by aides and teachers.

2. Self-scoring materials to be used by students.

D. Miscellaneous Equipment

1.	Red marking pens -	1	gross
2.	E-Z score cards -	1	dozen
3.	Duo-tang folders -	1	per child
4.	Large "in-out" mail baskets -	6	
5.	Folding tables (American Seating Co.)	3	
6.	Desk lamps, fluorescent	6	
7.	Three drawer units - filing cabinet	2	
8.	Single drawer units - filing unit -	4	
9.	Thermofax machine -	1	
10.	Loose leaf 3 ring folders -	2	per child
11.	Index separators for 3 ring folders -	10	
12.	Shelving		
13.	Fans -	4	
14.	Movable chalkboards -	5	
15.	Charts of sequencial skills in math continuum.		

E. Movement of Materials

Movable tables plus file of answer keys to be moved to individual classroom by aides.

IV. Programming

A. Planning Time

1. The value of involvement in planning is checking to see that the innovation is implemented. Through group effort, we must be vitally concerned with materials, procedures and devices pertinent to the certainty that an individually prescribed program of instruction is selected and that all decision making is by group approval and any developments or desired modifications be shared during planning time to be certain any changes made are not made without group approval. It is necessary for a continuous anaylsis of feed-back, checking prescriptions, noting diagnosis, determining pac of individually prescribed instruction, etc., evaluating the achievement of students with respect to certain specified objectives.

The planning organization can explore ways and means of creating procedures that can be developed and communicated to each other as items selected to perform in combination of or for a particular task.

2. Uses of Planning

a. Planning time is necessary for considering preparation of the individually prescribed instruction, consideration and solving of the problems, consideration of the precautions and consideration of the practices of the innovation.

b. Planning time is used to familiarize the staff in instituting and IPI program acquainting and helping staff to understand the objectives of IPI.

c. Planning time is used to be certain IPI is accommodating the underachiever, the average or superior child.

d. Planning time is indispensable to check on any sign of lapse.

e. Planning time affords a close relationship of staff to keep the process on-going; to sustain interest; to stir decisions and to win accords through group process quickly.

f. Planning time is essential to reporting to the group a complete analysis of the continuum.

g. Planning time is used to determine statements to be included in an IPI section of our schools' weekly bulletin to keep staff informed.

h. Planning time is to be used for reporting an interpretation of IPI to be explained to parents.

i. Planning occurs in Classroom A-22 close to materials.

B. Schedules

1. Classroom Schedule

A.M.	P.M.
9:15 Theresa	12:45 Joyce
10:15 Venanzi	1:45 Lewis
10:30 Irene	1:45 Helen
11:30 Waldron	2:45 Delie

Floating Teacher schedule to be determined by teachers involved by beginning of week at IPI planning time

Seminar

½ hour Tuesday and Thursday

2. Yearly school calendar schedule

December - placement Testing
January - pupils begin working from IPI Materials

3. Aides Schedule

a. Chief Aide - all day - remains in materials center

b. 5 (½ time) aides - 2 in a.m., 2 in p.m., and 1 to be a secretary aide

4. Planning Schedule

Monday - 1 hour 3:00 - 4:00

If necessary meetings may be called 8:15 - 8:25 or after school if additional time is needed.
Daily time for prescription writing - after school.

V. Orientation

A. Teachers

1. In-service training

a. At the first faculty meeting in September all teachers on the faculty will be told about IPI, its objectives and procedures. In this way the entire staff will be informed of the coming program.

b. Planning sessions will begin in September. All the teachers will be invited to participate in the planning sessions. They will help to set up the IPI program and become acquainted with IPI materials. The other third grade teacher who will be using IPI but isn't present this summer, will be given additional, individual help in the hope that she can start IPI with the others. The project coordinator can discuss IPI with the teachers and answer their questions.

c. In January, when IPI will be in use, non-IPI teachers will be freed from classroom duties to sit in on an IPI session in the second and third grades. Teachers will be provided with a check-list so they will know what to look for. There will be a follow-up so teachers can ask questions. These teachers will eventually be expected to participate in sessions as co-teachers, answering questions and writing prescriptions.

2. McAnnulty visitations

a. If possible, the other third grade teacher, who will be using IPI this year, will be sent to McAnnulty for several days.

b. Teachers who are to use IPI in September, 1967, will be sent to McAnnulty during the second half of the year.

3. Substitutes

a. If an IPI teacher is absent during the year, a regular substitute will be employed to teach everything but the IPI subject. The floating teacher and principal will take the IPI class.

b. In cases of prolonged illness, a substitute will be given a training program so she can teach the IPI class, with the help of the floating teacher.

4. Other teachers

Other teachers in the district will be informed of the fact that IPI is being implemented through local association bulletins.

B. Aides

1. Qualifications

a. A list of qualified personnel will be obtained from the Personnel Office. Interviewing, by the project coordinator, will begin in September.

b. The following qualifications will be necessary:

1. High school diploma
2. Resident of an area other than that surrounding the school
3. Able to type and do secretarial work

c. One reliable, well-qualified individual will be chosen as a full-time chief-aide.

d. One individual will be chosen as a secretary-aide.

e. Four other half-time aides will be hired.

2. Training

a. Training for the chief-aide will begin as soon as she is hired. The floating teacher and principal will take time to acquaint the chief-aide with her duties. She will be expected to help organize materials and carry on the regular duties of an aide.

b. During planning time, teachers will write a list of procedures for aides to follow. The following are some things to be considered. Exact instructions will be formulated.

1. How to correct tests and worksheets
2. How to record results of tests and worksheets
3. What to do with tests and prescription sheets
4. Where and when to file tests and sheets
5. How to make flow charts

c. Aides will become acquainted with materials and procedures by handling them. The chief-aide, after training, will help train others.

d. The secretary-aide will act as secretary, handling correspondence and duplicating materials. She will also act as a substitute aide when needed.

3. Salary

a. The chief-aide will begin with a salary of $2.00 an hour, while in training, and work up to $2.50 an hour.

b. The secretary-aide will begin with $1.75 an hour and work up to $2.25 an hour.

c. The regular aides will begin with $1.50 an hour and work up to $2.00 an hour.

C. Children

1. The children will be oriented to some of the procedures of IPI early in September.
2. Any questions that the children ask about the IPI program will be answered by the teacher.
3. Just before the program begins the children will get a detailed explanation of the program and its procedures.

D. Parents

1. At the first PTA meeting all the parents present will be given a general overview of IPI.

2. After this general meeting, parents, whose children will be involved in IPI, will go to classrooms for further discussions with individual teachers.

VI. Evaluation

A. The IPI program

1. Continuous group evaluation at planning session.

The following will be considered:

a. Schedules
b. Objectives
c. Materials
d. Pupil-teacher relationship
e. Strategies
f. Test results
g. Feedback
h. Reporting to parents
i. Diagnosis instruments

2. Utilizing or consulting scores from other IPI centers sent to us by Appleton-Century Croft in order to evaluate our methods and procedures from the standpoint of improvement.

3. Modification in the IPI program as implemented by analysis of feedback information.

B. Teacher performance

1. The work of the teacher is a key aspect of IPI. Some essential points to be considered in our evaluation of our teacher's competency includes examining the individual pupil's records, diagnosis of pupil's needs (prescription), and arranging for the necessary learning experiences.

2. The teacher must then evaluate the effectiveness of the lesson materials and the learning experiences she provides. This evaluation must be a continuous process. Our teachers must function as an "educational engineer" with as much flexibility and creativity as possible.

C. Formal pupil evaluation and reporting

1. Parent-teacher conferences will be held at the end of two of the grading periods for those children involved in the IPI programs.

2. Narrative report cards will be issued at the end of the two remaining report periods for those children involved in IPI.

3. Planning sessions will be utilized for parent-teacher conference planning.

D. In formal pupil evaluation

1. On-going evaluation concerning pupil progress will be an integral part of our planning sessions.

2. Flow charts will be utilized to show pupil progress.

3. Each pupil will be able to self-evaluate and receive regular and immediate feed-back concerning the effectiveness of his work in the program and his progress. This comes about as a result of the pupil's work being immediately checked by teachers' aides, or by self-checking.

4. Assessment of pupil's involvement in this innovation can also be accomplished through teacher observation. Modifications can then be made, if indicated.